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ABSTRACT

This paper examines the effects of principal work values, teacher-job-candidate work values, and principal/teacher work-value interactions on principals' teacher-selection decisions. It extends empirical research about work values by examining the influence of values, operationalized as four work values (achievement, concern for others, fairness, honesty) germane to the school work environment. The document reviews related literature, including values theory, work values in education, and experimental designs for teacher-selection research. The report is based on a study of 115 principals that employed a mixed between-within design approach. The between-group independent variables included the four work values, four principal-candidate work-value interactions, and six principal characteristics such as age and gender. The dependent variable was "principal rating" of a teacher candidate. The Comparative Emphasis Scale measured the dominant work values of the school principals and the between-within factorial design. A stepwise multiple regression was used to regress principal ratings of a teacher candidate on principal and teacher dominant work values and on principal/teacher work-value interactions. The four work-value interactions and teacher work-value achievement accounted for a significant amount of variance in principal ratings of teachers, suggesting that principal work values influence teacher-selection decisions. (Contains 50 references.) (RJM)

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The Influence of Work Values on Principal Teacher Selection Decisions in Schools Undergoing Reform

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Abstract

The purpose of this study was to investigate the impact of work values on teacher selection decisions. The Comparative Emphasis Scale served to measure the dominant work values of school principals (N = 115). A between-within factorial design and stepwise multiple regression were used to regress principal rating of a teacher candidate (dependent variable) on principal and teacher dominant work values and on principal-teacher work value interactions. A linear combination composed of four work value interactions and the teacher work value achievement accounted for a significant amount of variance in principal ratings of teachers. These results suggest that principal work values influence teacher selection decisions.

The Influence of Work Values on Principal Teacher Selection Decisions in Schools Undergoing Reform

Values have been an enduring interest of educational administrators: "Educational administration as a field of study was from the beginning oriented to philosophical and value questions" (Willower, 1994a, p. 467). However, despite this long-standing interest, values in educational work settings have yet to be measured and investigated empirically with respect to their influence on such administrative decisions as teacher selection.

Conducting empirical research to close this gap is important because there is substantial evidence that the values of individuals in the workplace affect behaviors and decisions related to both managerial and non-managerial work (Dawis, 1991). Values operant in the workplace are purported to influence organization culture (Schein, 1985), job satisfaction (Locke, 1976), administrative decision making (England, 1975), and a wide variety of other work-related perceptions and behaviors (George & Jones, 1996; Ravlin & Meglino, 1987, 1989). These findings from existing research suggest strongly that examining work values in school settings empirically could yield new knowledge about work value effects relative to such vital school issues as teaching norms and student achievement.

The present study extends the existing empirical research about work values to the education sector by examining the influence of values, operationalized as four work values (achievement, concern for others, fairness, honesty) germane to the school work environment. The purpose of the study was to examine the effects of principal work values, teacher job candidate work values, and principal-teacher work value interactions on the teacher selection decisions made by principals at the elementary school, middle school, and high school levels.

Related Literature

A review of the industrial and organizational psychology literature and the educational administration literature framed the research problem and the research design for the present study. The review of industrial and organizational psychology research provided: (a) a theoretical framework for investigating work values [illegible]lly, (b) a set of operational definitions for the four work values examined, and (c) [illegible]ppropriate instrument to measure a principal's dominant work value. The review of educational administration research informed the study with respect to: (a) research methods employed previously to investigate educational work values and (b) experimental designs used previously to study teacher selection decisions.

Values Theory

The values theory developed by Rokeach (1973) has proven especially useful, and enduring, as a theoretical framework for empirical investigations about values in work contexts (e.g., Adkins, Russell, & Werbel, 1994; George & Jones, 1996; Judge & Bretz, 1992; Meglino, Ravlin, & Adkins, 1989; Meglino, Ravlin, & Adkins, 1992; Ravlin & Meglino, 1987, 1989). Rokeach's work is important, also, because his theory differentiates values operationally from such related, but potentially confounding, constructs as attitudes, norms, interests, needs, and traits (Rokeach, 1973, pp. 17-22).

The operational definitions of values and value systems (Rokeach, 1973) that undergirded the present investigation are stated as follows:

> A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. A value system is an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance. (p. 5)

These definitions postulate that values and value systems influence individual behavior and decision making. The research interest of the present investigation was the

potential impact of values on the work-related actions and decisions of school principals. For example, if values influence the teacher selection decisions of principals, then the work values held by principals can have an indirect, but potentially decisive, impact on teaching and learning.

A further aspect of values that has a direct bearing on the present study is the hierarchical nature of values:

> Gradually, through experience and a process of maturation, we all learn to integrate the isolated, absolute values we have been taught in this or that context into a hierarchically organized system, wherein each value is ordered in priority or importance relative to other values. (Rokeach, 1973, p. 6)

The present investigation addressed the hierarchical nature of values by: (a) measuring the dominant work values held by principals and (b) examining how these dominant work values affected teacher selection decisions when the principal and the teacher shared a dominant work value. Addressing these issues required identifying a validated work values instrument.

Work Value Measurement

Work values are socially desirable phenomena. Asking individuals to rate objects or individuals reflecting different work values can result in uniformly high ratings because all values under consideration are regarded favorably by the rater (Crown & Marlowe, 1964). This social desirability factor was addressed by Rokeach (1973), who constructed a forced-choice ipsative instrument that requires respondents to rank order 18 values. Rank ordering differentiates among individuals ranking the same set of values by establishing each individual's values hierarchy. Rank ordering allows the importance assigned to any one value to be differentiated from the importance of any other value when all values are socially desirable.

Building on the work of Rokeach (1973), Ravlin and Meglino (1987) conducted a study to evaluate alternative methods for measuring the impact of four work values on

workplace perceptions and decisions. The four work values examined were achievement, concern for others, fairness, and honesty. The researchers addressed both the hierarchical and the socially desirable nature of work values. The alternative work values measures evaluated were:

> a simple rank ordering of the four values (rank measure), assignment of a fixed number of points among the four values (point-assignment measure), a forced-choice measure based on a series of behavioral incidents related to each of the four values (forced-choice measure), and ratings on item response scales of the same behavioral incidents (Likert-summated scales measure). (p. 667)

The rank order, point-assignment, and forced-choice methods were ipsative measures; that is, the rating (i.e., weight) given to one work value affected the ratings (i.e., weights) given to other work values. The instrument containing Likert-type scales was nonipsative and, accordingly, the rating given to one work value did not affect ratings given to other work values.

Ravlin and Meglino (1987) assessed the above instruments for social desirability response bias and examined the effect of the four work values on work-related perceptions and decisions. The study finding that is most germane to the present investigation is that "[participants] emphasized values in decision making in relation to their importance as indicated on the rank, point-assignment, and forced-choice measures, whereas Likert responses were not related to decision weights" (p. 671). The ipsative scaled instruments controlled for social desirability and differentiated among ratings for the four work values, while the Likert-type scaled instrument did not. These findings suggest that ipsative scaled instruments are the most appropriate instruments for measuring work values because they (a) control for social desirability (Crowne & Marlowe, 1964) and (b) differentiate among the internal work value hierarchies of individuals (Locke, 1976, Ravlin & Meglino, 1987; Rokeach, 1973).

Meglino, Ravlin, and Adkins (1989) revised the forced-choice instrument used in

the above study. The revised instrument, the Comparative Emphasis Scale (CES), measures individual preferences with respect to four work values: achievement, concern for others, fairness, and honesty. The CES contains 24 pairs of behavioral statements, each reflective of one of the four work values. For example, one item contained in the CES requires respondents to choose between "continuing to work on a problem until it is resolved" (achievement) and "trying to help a fellow worker through a difficult time" (concern for others).

The four work values measured by the CES were the result of a multiple-step validity procedure (Meglino, Ravlin, & Adkins, 1989; Ravlin & Meglino, 1987). The validation steps included: (a) generating 966 work value statements via a survey administered to the employees of 40 organizations (Cornelius, Ullman, Meglino, Czajka, & McNeely, 1985); (b) writing additional statements reflective of the four work values on the CES; (c) having an initial group of independent judges (N=98) classify the work value statements by value category; (d) eliminating statements with low classification agreement among the judges (i.e., less than 78% agreement); (e) having a second group of independent judges (N=99) rate the retained statements for social desirability; and (f) having a third group of judges (N=100) rate the statements regarding the degree to which the statements reflected the work value classifications assigned by the first group of independent judges. The items included on the final instrument met two additional criteria. First, statements retained on the CES had received equivalent ratings from male and female judges. Second, the statements paired on the CES had received equivalent social desirability ratings. The above procedures rendered a validated instrument containing pairs of statements reflective of four work values matched to "control for sex bias, social desirability, and the extent to which each statement represented its specific value" (Meglino, Ravlin, & Adkins, 1989, p. 426).

The CES is structured so that a statement reflecting each value is paired with a statement representing each of the other three values four times, resulting in each value

appearing on the instrument 12 times. An individual completing the instrument can score a maximum of 12 points on any one value (1 point each time a value is selected at the expense of another). The total score resulting from the 24 forced choices cannot exceed 24 points. Because the score for one value affects the scores for other values, the CES is an ipsative measure. Most respondents rank one value higher than the others and, therefore, have a dominant work value. The CES (Ravlin & Meglino, 1987, 1989; Meglino, et al., 1989), was adopted to measure the dominant work values of principals participating in the present study.

Work Values Research in Education

For most of this century, values have been discussed by American educators from philosophical and moral perspectives (Dewey, 1922; Willower, 1994b). Willower (1973) observed that school administrators tend to address values at the philosophical level for academic or public consumption, with little regard for their potential impact on educational practice:

> The division of values and practice has enabled the philosophically inclined to spin out visions and dream dreams unsoiled by concern with feasibility. Hence, their work may have resulted in more complete intellectual synthesis, exhibiting a hazy relation to life but an elegance and beauty all its own. On the practitioner side of the coin, it is gratifying to certain individuals to be able to cling to noble values without having responsibility for their behavioral expression. (p. 9)

Despite this disparity between values as philosophy and values as practice, (Willower, 1988) demonstrated that the tendency to segregate philosophical value pronouncements from values in practice has continued into contemporary times. A further observation of Willower (1994b) is: "That moral choices in school organizations occur in concrete situations, but that the discussions of values in educational administration have been largely abstract and disconnected from practice and from

empirical studies of practice is unfortunate" (p. 479). The present study served to narrow the gap between values in the abstract and values in practice. The influence of values on practice was addressed by examining the impact of work values on teacher selection, one of the most important practices performed by school principals.

There have been recent attempts to close the knowledge gap discussed above using qualitative research approaches. Various researchers addressed, subjectively, the influence of values on the work-related actions and decisions of educational administrators. Interviews served as the primary method for collecting data to examine the impact of values on the administrative work of superintendents (e.g., Kasten & Ashbaugh, 1991), principals (e.g., Begley & Leithwood, 1990), and groups of administrators composed of both principals and assistant principals (e.g., Marshall, 1992). These studies provided new knowledge about the subjective meaning of values for school administration. However, educational administration research remains devoid of empirical investigations about the impact work values. Further, although work values have not been studied empirically, relative to teacher selection, educational researchers have conducted empirical studies about other influences on teacher selection that did serve to inform the research design of the present study.

Experimental Designs for Teacher Selection Research

Investigations conducted by Young (1984), Young and Allison (1982), Young and Joseph (1989), Young and Place (1988), and Young, Place, Rinehart, Jury and Baits (1997) exemplified the experimental designs used to examine factors influencing teacher selection decisions at both the initial screening stage and at the selection interview stage. These designs involved simulating a specified teacher recruitment or teacher selection context, such as the initial screening stage or the selection interview stage. Typically, researchers have manipulated teacher characteristics (independent variables) experimentally and assessed the effects of these manipulations on teacher ratings (dependent variable) performed by principals or superintendents. This stream

of research indicates that various personal characteristics of teacher candidates impact the teacher selection decisions made by principals and superintendents. The most frequent statistical procedures used for data analysis have been correlation analysis, multiple regression, and factorial analysis of variance.

Young and Allison (1982) simulated the initial screening stage of the teacher selection process by constructing teacher candidate resumes that were used to manipulate three levels of teaching experience (no experience, three years of experience, eight years of experience) and two levels of candidate age (29 years old, 49 years old). High school principals and district superintendents rated the teachers using a six-item rating instrument composed of 5-point Likert-type scales (5 being most favorable). Each of the six items (dependent variables) measured a teaching qualification such as "curricular knowledge". The data were analyzed using a 3 x 2 x 2 completely crossed factorial design. Across all levels of teaching experience, and regardless of the teaching qualification evaluated, both superintendents and principals rated the 29 year old teacher candidates more favorably than they rated the 49 year old candidates.

In a subsequent study, Young (1984) simulated teacher selection interviews, with practicing administrators role playing the decision maker and practicing teachers role playing the teacher candidate. The investigator measured teachers with respect to their ability on three types of impression management. Each type of impression management became an independent variable in a subsequent correlation analysis. The impression management types varied with respect to how motivated and agile the individual was in managing an interpersonal situation such as a teacher selection interview. The dependent variable was a teacher rating completed by the administrator. The evaluation instrument consisted of three items with 5-point Likert-type scales (5 being most favorable) that were summed to form a composite score. The three items comprising the composite score were: (a) overall interview performance, (b) job offer

probability, and (c) decision certainty. The teachers rated most favorably by the administrators possessed higher motivation, greater impression management agility, or both. An experimental design similar to those described above was used in the present study to accomplish three advancements with respect to work values and teacher selection research.

Advancements

The first research advancement accomplished by this investigation related to the operational definition of the values context. Values have been contextualized in a variety of ways including: (a) the broad societal context (social values), (b) the individual context (personal values), (c) the large group context (religious values), and (d) the small group context (family values). In the few existing studies about the influence of values on administrator actions and decisions (e.g., Begley & Leithwood, 1990; Kasten & Ashbaugh, 1991; Marshall, 1992), there has been a tendency to rely on values theories (e.g., Hodgkinson, 1978) that define values broadly as political, social, and personal in nature. While values may be political, social or personal in a general sense, a more specific operational context is desirable for investigating the influence of values in the educational workplace. In this investigation, a school work value context was established by: (a) manipulating four values validated previously as being operant in the workplace; and (b) specifying a school administrator work task, teacher selection, to operationalize a work context appropriate for empirical study.

The second advancement concerned the method of measuring work values in school settings. For the first time in educational research, empirical indicants were used to measure principal work values that influence teacher selection decisions. Consistent with studies performed in non-educational work settings, the principal work values addressed in this study were measured using a forced-choice, purely ipsative measure (Ravlin & Meglino, 1987), which had undergone an extensive validation procedure. Empirical indicants of work values served to evaluate (a) whether or not a principal's

dominant work value can be measured empirically and (b) whether or not principal work values are organized hierarchically.

The third advancement related to the teacher selection process. The existing body of teacher selection research has shown that many factors affect the teacher selection decisions made by principals. The present study represented the first use of an experimental design to investigate the potential effects of work values on teacher selection decisions.

Method

The design used in this study was a mixed between-within design as specified by Keppel (1991). The repeated measures independent variable was "candidate dominant work value". The between group independent variables included the four dominant principal work values, four principal-candidate work value interactions (e.g., achievement by achievement), and six principal characteristics such as age and gender. The dependent variable for the study was "principal rating" of a teacher candidate. The independent variables of primary interest were those that related to work values and principal-teacher work value interactions. The personal characteristics of principals were included in the analysis to determine if the four work values assessed in the study (achievement, concern for others, fairness, honesty) were free of response bias attributable to personal characteristics of the decision maker, as had been the case in previous studies (e.g., Ravlin & Meglino, 1987, 1989). Further details about the operationalization of the dependent and independent variables are explained later.

Participants

The participants for this study were principals (N = 115) from one of the largest school districts located in the midwestern region of the United States. The district is located in a state that has been undergoing mandated school reform for the past seven years. The district is diverse, in terms of school characteristics (e.g., inner city schools versus suburban schools, magnet schools versus traditional schools), and in terms of

student characteristics (e.g., ethnic background, academic achievement). There are 140 schools in the district distributed by level as follows: 92 elementary school (66%), 25 middle schools (18%), and 23 high schools (16%).

The population for the study was all principals in the focal school district having a dominant work value (achievement, concern for others, fairness, or honesty). All 140 building principals in the district were invited to take part in the study and 125 (89%) agreed to participate. Ten individuals (8%) did not have a dominant work value as measured by the CES instrument and were excluded from further analysis. This resulted in a total of 115 participants distributed by school level as follows: 75 elementary principals (65.0 %), 20 middle school principals (17.5 %), and 20 high school principals (17.5 %). The participants included 63 female principals and 52 male principals.

The 10 principals who did not elect to participate in the study represented schools that did not differ from the schools of participating principals in terms of enrollment levels, student characteristics, and geographic location (i. e., inner city, suburban, rural). The above information, the high participation rate (89%), and a distribution of participants by school level almost identical to the actual distribution in the focal district (see above), established that the participants were representative of the population identified for the study.

The design used in this study involved a repeated measures feature which increased the observations available for analysis (115 participants x 4 measures = 460 observations). To determine the adequacy of this sample, and the probability of committing a Type I statistical error, a power analysis was conducted using procedures recommended by Cohen and Cohen (1983). The criteria chosen for the power analysis were: (a) power = .95, (b) alpha = .01, and (c) medium effect size (R-squared = .09). The effect size was "medium" as specified by Cohen and Cohen (1983, p. 161). The actual power level obtained exceeded ninety-nine percent, indicating virtual certainty that, if

statistical significance existed, it would be detected. Descriptive data for the study participants are reported in Table 1.

Insert Table 1 about here

Independent Variables

The study participants performed a series of tasks in two phases. In the first phase of the study, the participants completed an anonymous biographical data form and the CES instrument (Ravlin & Meglino, 1987). The biographical data form captured information about six principal characteristics that served as independent variables in the analysis. In previous research (Ravlin & Meglino, 1987, 1989), the CES proved to be free of response bias associated with personal characteristics of the decision maker, such as age and gender. To the extent a work values instrument is to free of such bias, the instrument acquires greater value as an administrative aid for teacher selection. A selection procedure that is not free of such bias violates the anti-discrimination clauses of civil rights legislation (Heneman, Heneman, & Judge, 1997; Young & Ryerson, 1986). To determine if principal ratings of teachers were free of response bias associated with the personal characteristics of principals participating in the study, the following six principal characteristics served as assigned independent variables: (a) principal age, (b) principal gender, (c) years of experience as a principal, (d) total educational work experience, (e) number of teacher selection interviews conducted, and (f) number of teachers hired.

Scores on the CES operationalized four independent variables that were manipulated experimentally. The CES is a 24-item forced-choice instrument yielding ipsative rankings of four work values: achievement, concern for others, fairness, and honesty. Based on their scores on the CES, the participating principals were either dominant or not dominant with respect to each work value. Scores on the CES served to

operationalize four between-subjects independent variables representing dominant principal work values: achievement, concern for others, fairness, and honesty. The CES scores were used to code the participants on each work value (1 = dominant, 0 = not dominant). This coding method was used by Judge and Bretz (1992) who examined the effects of work values on job applicant ratings of position descriptions.

In the second phase of the study, the participants performed four written teacher selection simulations that required the participants to assume the role of a principal rating four candidates for a teaching position. The simulated teacher selection instrument required the participants to read and react to four types of information: (a) a description of the stage of the selection process being simulated (i. e., second screening to select a finalist from among four equally qualified candidates); (b) operational definitions for four teacher work values (achievement, concern for others, fairness, honesty); (c) descriptions of simulated work value ratings the teachers received during initial screening; and (d) two teacher evaluation items. Further details are provided below concerning the selection instrument and the operationalization of additional variables included in the analysis.

The primary objective of the present research was to examine the impact of work values on the teacher selection decisions made by principals. Three sources of variance served as the focus of the research: (a) variance associated with the dominant work values of teacher job candidates, (b) variance associated with the dominant work values of principals making teacher selection decisions, and (c) variance associated with interactions between teacher dominant work values and principal dominant work values. To accomplish the research task of isolating variance associated with work values, all characteristics of the teachers evaluated on the selection instruments, with the exception of teacher dominant work values, were held constant.

To hold teacher characteristics other than work values constant, the selection instrument depicted the four teacher candidates as having completed, successfully, a

preliminary candidate screening. The selection instruments described the four teachers as having been judged in the initial screening as "equally qualified for the job in terms of education, certification level, and teaching experience." The task assigned to the study participants was to rate the four teachers described on the instrument as "finalists for the position." The sole criteria for rating the four teachers described on the instrument were simulated work value ratings constructed as explained below.

The selection instrument specified that the four teachers had been "evaluated by the district assessment center on four work values." Adopting a procedure similar to one used by Ravlin and Meglino (1987, p. 669), simulated work value ratings for the four candidates were displayed on the instruments using 7-point scales (7 being most favorable). The scale had three anchors: "poor" (rating of 1), "acceptable for hiring" (rating of 4) and "outstanding" (rating of 7). Each of the four candidates had a rating of "outstanding" for one value and ratings of "acceptable for hiring" for the other work values. To assist the participants in rating the four candidates, the instrument contained operational definitions for the four work values. Content from items on the CES was used to construct the operational definitions. The simulated teacher work value ratings served to operationalize four additional independent variables representing dominant teacher work values: (a) achievement, (b) concern for others, (c) fairness, and (d) honesty. Teacher dominant work values were the only teacher characteristics manipulated experimentally.

Dependent Variable

As noted above, operational definitions for the four work values were included on the selection instrument to assist the study participants in rating the four teacher-candidates. The definitions were based on items from the CES (Ravlin & Meglino, 1987, 1989). Teachers valuing achievement were described as follows: "The teacher works hard, seeks all opportunities to learn new skills, sacrifices to accomplish job requirements, and sets high personal standards of performance." The description for

teachers valuing concern for others was: "The teacher helps colleagues, encourages people at work who are having a difficult time, and shares information and resources with others." The descriptor for fairness was: "The teacher considers different points of view before acting, tries to resolve disagreements impartially, and judges people based on their abilities rather than on their personalities." Teachers valuing honesty were depicted as follows: "The teacher sticks to his/her true convictions, admits and accepts consequences for mistakes, and refuses to do things known to be wrong."

The participants rated the four teacher-candidates using two items with 7-point Likert-type scales (7 being most favorable). The items were: (a) "How likely are you as Principal to invite this candidate for a final interview?" and (b)"How likely are you as Principal to offer this candidate the job?" Both scales were anchored at the low end as "not at all likely" and at the high end as "very likely". Ratings on the two items formed an additive composite score for the dependent variable which was "principal rating" of a teacher candidate. The composite score was similar to composite scores used in previous teacher selection studies (e.g., Young, 1984; Young, Rinehart & Place, 1989). To control for order effects resulting from repeated measures, the order of the teacher candidates and the rating items were counterbalanced using a "digram-balancing" procedure recommended by Keppel (1991, p. 339).

Pilot Study

Prior to the actual study, the instruments were analyzed by a panel (N = 7) composed of experienced principals and principal certification instructors. The analyses of the panel members were used to improve the clarity and realism of the simulation. The instruments were administered to a pilot group (N = 24) with characteristics similar to those of the actual study participants. The objectives of the pilot study were to: (a) assess participant understanding of the simulation exercise, (b) check manipulation of the four candidate work value variables, and (c) assess reliability of the composite score serving as the dependent variable.

After completing the pilot instruments, the participants completed a form containing four multiple-choice questions designed to verify that the participants understood the following aspects of the simulation: (a) the stage of the search process being simulated (i.e., after initial screening); (b) the number of teachers being evaluated (i.e., four); (c) the teacher qualifications being evaluated (i.e., work values); and (d) the rankings of the four teachers being evaluated on qualifications other than work values (i.e., "equally qualified in terms of education, certification level, and teaching experience"). For example, to determine if the participants understood that work values were being used to rate the teacher candidates, the pilot questionnaire included the following multiple-choice question: "What job qualification were you asked to evaluate?" The possible responses to this item were: (a) teaching experience, (b) work values, (c) level of education, and (d) certification level. Twenty-three participants (98%) answered each of the four items on the questionnaire correctly, indicating the simulation and the manipulation of teacher work values had been perceived as intended. Coefficient alpha was computed to assess reliability of the composite score. The resulting reliability coefficients for the dependent variable measures were: achievement (.83), concern for others (.89), fairness (.91), and honesty (.88). These coefficients were well above the minimum of .60 recommended by Nunnally and Bernstein (1994) for use of a composite score in statistical analysis.

Data Analysis

The data were submitted to a stepwise multiple regression analysis. As part of this procedure, data for the between-subjects factors were duplicated and appended to the within-subject factor manipulations and the evaluation items (four for each participant). Methodologically, each evaluation of a simulated teacher candidate is an independent event that becomes a dependent variable (Hays, 1981).

However, duplicating between-subject factors results in observations that are not independent may result in autocorrelation among the residuals, thereby, violating of

one of the assumptions of ordinary least squares (OLS) regression (Kennedy, 1985). Before actual implementation of the OLS regression analysis, the Durbin-Watson test was performed to assess the degree of autocorrelation among the error terms. The computed value (Durbin-Watson = 1.87) was not significant at the specified alpha level of .05. The null hypothesis (there is no first-order autocorrelation among the residuals) was accepted and OLS regression was retained as the primary data analysis procedure.

Null Hypotheses

The null hypotheses tested in this study related to three groups of independent variables: (a) principal characteristics, (b) teacher work values, and (c) principal-teacher work value interactions. Fourteen null hypotheses were tested. There were six null hypotheses tested relative to the six principal characteristics entered into the regression equation. These six hypotheses addressed main effects and were stated using the following general form.

Hypotheses 1-6. Holding all other variables in the equation constant, there is no difference in principal rating of a teacher-candidate associated with the principal characteristic of interest (e.g., age).

Four null hypotheses were tested to assess the influence of candidate work values. These four null hypotheses tested main effects and were stated according to the following general form.

Hypotheses 7-10. Holding all other variables in the equation constant, there is no difference in principal rating of a teacher-candidate associated with a teacher work value of interest (e.g., fairness).

To examine the interaction effects associated with principal-teacher sharing of a dominant work value, four null hypotheses were stated as shown below.

Hypotheses 11-14. Holding all other variables in the equation constant, there is no difference in principal rating of a teacher-candidate associated with an interaction between work values shared by a principal and a teacher (e.g., principal achievement

by teacher achievement).

Results

The correlation matrix for the dependent variable, principal characteristics, teacher values and principal-teacher value interactions is shown in Table 2.

Insert Table 2 about here

Correlations between metric scaled variables were computed using the Pearson product-moment correlation procedure. Correlations between a metric variable such as age and a dichotomous variable such as gender were computed using the point-biserial correlation procedure. The computed coefficient alphas for the composite score ratings were: achievement (.86), .concern for others (.91), fairness (.88), and honesty (.89).

There were no significant bivariate correlations between the dependent variable and the six principal characteristics included in the analysis, which provided evidence that variance in the dependent variable was free of response bias associated with the personal characteristics of the participating principals. The dependent variable did correlate significantly with four independent variables (a) candidate achievement, (b) the achievement interaction, (c) the concern for others interaction, and (d) the fairness interaction. These results provided preliminary evidence that the teacher value achievement and the principal-teacher value interactions accounted for a significant amount of variance in principal ratings of a teacher-candidate.

Significant positive correlations were detected between age and variables related to experience such as experience as a principal, total work experience, number of interviews conducted, and number of teachers hired. These positive correlations are logical because older principals are more likely to have had more work experience, and to have interviewed and hired more teachers. Significant negative correlations were detected between principal gender and the following variables: experience as a

principal, number of interviews conducted, and number of teachers hired. These negative correlations indicated that female principals tended to have fewer years of experience as a principal and less experience interviewing and hiring teachers. A possible explanation for these negative correlations is the historical bias against female teachers in the United States with respect to administrator hiring (Shakeshaft, 1986). Discrimination based on gender is addressed more fully later (see Discussion below).

There were significant bivariate correlations between the teacher work values and between the principal-teacher value interactions. These correlations, both positive and negative, were a preliminary indication that principal ratings teacher-candidates varied systematically depending on the dominant work values held by the principals and teacher-candidates. Next, the data were submitted to a stepwise multiple regression procedure. Results of the multiple regression analysis are summarized in Table 3.

Insert Table 3 about here

Principal characteristics did not account for a significant amount of variance in principal rating of a teacher (dependent variable) and are not included in Table 3. However, because work values were the central focus of this study, work value variables are shown in Table 3 regardless of whether or not they contributed to explaining a significant amount of variance in the dependent variable. As expected, the main effects for dominant principal work values were not significant. The dominant teacher work value achievement was significant. The significant achievement effect may have been due to the reform mandates operant in the district, which stressed student achievement. The four principal-teacher interactions were significant, indicating principals rated teachers more favorably when the principal and the teacher shared a dominant work value.

As measured by change in R-square, and holding all other variables in the equation constant, the respective percentages of variance in the dependent variable explained by each significant independent variable were: (a) candidate achievement (2 percent), (b) achievement by achievement interaction (2 percent), (c) concern for others by concern for others interaction (2 percent), (d) fairness by fairness interaction (2 percent), and (e) honesty by honesty interaction (1 percent). Adjusted R-square was calculated to assess the practical significance of these results. The linear combination of the five significant independent variables accounted for 9 percent of the variance in principal rating of a teacher-candidate.. This effect size was interpreted as "medium" in magnitude according to criteria explicated by Cohen & Cohen (1983, p. 161).

Discussion

The findings from this study provide new knowledge about values in schools. that holds promise for improving the quality of educational programs. This knowledge, summarized below, has implications relevant to: (a) teacher selection, (b) teaching and teacher education, (b) gender equity in teaching and administration, (c) values theory, and (d) future teacher selection research.

Teacher Selection

Practical application of study findings is not advisable until more extensive knowledge has been accumulated. However, study results do show that the work values held by educational professionals can be measured. This finding, in turn, suggests that work values may prove useful as teacher selection criteria in the future. Should teacher selection research continue to yield consistent findings that work values can be measured with precision, then administrators, teachers, and parents desiring that a particular work value be emphasized may assess the work values of job candidates as a way of optimizing teacher selection decisions.

The school district serving as the site for this study may be a case in point. The district is located in a state undergoing school reform. Under the requirements of the

operant reform legislation, student achievement is a central issue in three respects: (a) schools are required to administer standardized student achievement tests, (b) school funding is partly linked to achievement test results, and (c) schools with low student achievement can be declared "in crisis", which can serve as legal justification for dismissing teachers and the school principal.

In this study, the main effect for achievement, operationalized as a teacher dominant work value, was significant. This result indicates that, holding the principal-teacher achievement interaction constant, principals favored achievement as a teacher dominant work value to a higher degree than they favored other values. This finding suggests that, when provided with information about a teacher's dominant work value, principals in the focal district tend to rate teachers in a manner that is consistent with the student achievement goals stipulated by existing reform mandates. Further, although data remain insufficient to justify the practical use of work values as selection criteria, when sufficient knowledge has been amassed, administrators will not lack procedures to assess the practical and legal appropriateness of a given teacher selection practice. Appropriate validation procedures are available (Young & Ryerson, 1986, pp. 6-18).

Teaching and Teacher Education

The results of this investigation have implications for teaching and teacher education relative to the influence of values on teacher beliefs and teaching behaviors: "Value orientations represent teachers' educational beliefs regarding what is taught, how it is taught, and to what extent the content is learned" (Ennis, 1994, p. 109). Study findings suggest educators hold distinctive value orientations with respect to work itself. These findings are consistent with recent empirical research indicating teachers conform to differing value orientations with respect to making curricular decisions, adopting instructional methods, and forming expectations, goals, and strategies for student learning (Ennis, 1994; Ennis, Chen, & Ross, 1992; Ennis, Ross, & Chen, 1992;

Ennis, & Zhu, 1991).

The importance of values for students has been recognized in the teacher education literature, also, because of the influence values have on the work socialization process (Wentzel, 1991). The work values students adopt during the school experience undoubtedly impact subsequent ability to adjust to the workplace and perform professionally. The present research suggests it may be possible for teachers to assess student work value orientations empirically. In the future, work value instruments adapted for use with students may allow teachers to acquire information helpful in assisting students to develop work values and attitudes conducive to professional success.

Finally, study findings have implications for teacher preparation programs and for teacher in-service training and professional development. Teacher work value instruments may prove useful as evaluation tools for both in-service and pre-service program instructors who desire, for example, to conduct pre-tests and post-tests to assess program impact and student learning. Work values instruments may be helpful, also, as self-diagnostic tools that may be used by practicing teachers, and by students in teacher preparation programs, to: (a) critically examine internally held value orientations and (b) self-assess learning progress in adopting value orientations more conducive to effective teaching and improved student learning.

Gender Equity

The descriptive and inferential statistics in this study reveal important information about gender equity. With respect to the descriptive statistics, the correlation coefficients reported in Table 2 are the most significant relative to the gender issue. The correlations between gender and the four work experience variables suggest female participants have not been accorded equal opportunity in making the transition from teaching to administration. Despite the fact that female and male participants did not differ significantly with respect to total job experience (i.e.,

teaching and administrative experience combined), female participants, when compared with their male counterparts, had significantly fewer years experience as a principal, less experience interviewing candidates for teaching positions, and less experience hiring teachers. These findings appear to reflect the historical pattern in the United States that, while teaching has been a feminized profession, educational administration has been dominated by males (Glazer, 1991).

Various researchers (e.g., Glazer, 1991; Shakeshaft, 1986) have noted the lack of access to the administrative ranks accorded, historically, to female teachers. For example, while 72% of the public elementary and secondary school teachers in the United States are women, 72% of the principals and 95% of the superintendents are male (Bailey & Campbell, 1992). The evidence from this study is that female teachers, who make the transition from teaching to administration, do so later in their careers than do males. This finding would appear to result from the historical androcentricism (Shakeshaft, 1986) of American public education:

> American culture is accustomed to men exerting control over females. Perceptions of gender affecting the division of labor are deeply rooted in the culture, making progress toward genuine gender equality painstakingly slow. Discussions of the glass ceiling in various professions, industries, and organizations reinforce patterns of gender stratification that have persisted across occupations. Schools and teaching, like other social institutions and professions, cannot be free of the ideology that has shaped them for decades. (Kaufman, Westland, & Engvall, 1997, p. 118)

The finding discussed above provide support for the contention of researchers (e.g., Glazer, 1991, Shakeshaft, 1986) that policy changes, relative female access to job opportunities, are needed to achieve a more equitable representation of females in the ranks of principals and district superintendents.

The correlations reported in Table 2, and the regression results reported in Table

3, are relevant to the gender issue also. There are no significant correlations between gender and work values (Table 2), and gender does not interact with work values to influence principal ratings of teacher job candidates (Table 3). There are two possible explanations for these findings. The first explanation relates to the gender discrimination discussed above. The second explanation relates to the work values instrument used in this study. With respect to gender discrimination, the congruence between female and male work value orientations in this study may be regarded as further evidence of male dominance within education administration. Various researchers (e.g., Griffin, 1997; Schmuck & Schubert, 1994) have suggested that female teachers who enter administration may become inculcated over time into the male-dominant value structure and adopt behaviors that are consistent with existing administrative practices.

However, the absence of gender differences noted above may be the result, also, of the validation process (explained earlier) used to develop the CES instrument. One of the decisional criteria for including an item on the CES was that there be no significant difference between male and female ratings of the item in terms of importance (i.e., social desirability). Accordingly, the absence of gender by work value interactions can be viewed as a positive result explained by an explicit intent of the instrument validation process; namely, to construct an instrument that captures equivalent work value ratings across genders. If the intent is to use work values as teacher selection criteria, gender equivalency in measuring work values is a desirable attribute from a legal perspective. The non-discrimination clauses of American civil rights legislation expressly prohibit hiring practices that discriminate based on gender (Heneman, Heneman, & Judge, 1997; Young & Ryerson, 1986). The evidence from this study is that male and female principals give equivalent weight to the four work values investigated (achievement, fairness, concern for others, honesty) when making teacher selection decisions.

Values Theory

The results of this study lend additional support to the values theory developed by Rokeach (1973) and extended by Ravlin and Meglino (1987, 1989). As is the case with other professionals, it appears that school principals may possess internal values hierarchies that influence behaviors and decisions. Results suggest also that, holding all other factors constant, the principal making the teacher selection decision will tend to favor a candidate who shares the principal's dominant work value. This congruence between a job applicant and an organizational representative is consistent with at least one previous investigation. Judge and Bretz (1992) detected work value interaction effects in an experiment that required a job applicant with a dominant work value (independent variable) to perform a job description rating (dependent variable) for jobs that differed according to the dominant work value emphasized (independent variable). As measured by the CES, job applicants reacted more favorably to jobs offered by organizations depicted in the position descriptions as sharing the job applicant's dominant work value.

With respect to schools, Keedy, Seeley, and Bitting (1995) theorize that outstanding principals do not make decisions by chance. Rather, outstanding principals develop "normative frameworks" consisting of "personal constructions of values, beliefs, and commitments about good teaching, learning and administration" (p. 6). Outstanding principals use normative frameworks to make decisions "grounded in how they make sense of their work and how they define relationships with parents, teachers, students and central office administrators (Keedy et al. citing Greenfield, 1987; Sergiovanni, 1991)" (p. 6). Viewed from this theoretical perspective, work values are a key component of principal normative frameworks, which may impact teacher selection and other administrative practices related to teaching and learning.

Teacher Selection Research

Finally, suggestions for future research are warranted both with respect to

administrators and with respect to teachers and teaching. With respect to administrators, researchers should examine the effects of the work values assessed in this study, simultaneously, with other teacher selection criteria such as work experience, education, certification level, and interview ratings. And, there is a need for studies about work values relative to the selection of other educational personnel such as superintendents and principals. Future administrator studies should focus, also, on work value effects relative to administrator performance. For example, studies about principal change facilitator styles (Hall, Rutherford, Hord, & Huling, 1984; Vandenberghe, 1988) suggest effective principals differ from ineffective principals regarding the values, beliefs and normative frameworks they hold relative to the way the schools should be organized. Finally, another promising avenue of administrator research would be to investigate the dominant work values of administrators from districts undergoing school reform with those of administrators from districts not undergoing reform.

With respect to research about teachers and teaching, investigators should study the impact of the work values addressed in this research on factors that impact instruction and learning. There is a need for additional empirical research about the effects of work values on teacher-related issues such as job satisfaction, curricular and instructional decisions, and policy decisions made by teachers serving on local school councils. The present research should be extended, also, to examine work values in relation to student-related issues such as improving student attitudes towards learning and developing student skills in working with others.

Limitations

Findings from this study should be interpreted within certain limitations. The principals serving as participants for this study made teacher selection decisions under simulated conditions. It is possible these decisions might have been different under actual teacher selection conditions. Also, as noted above, the state serving as the site for

this study is undergoing mandated school reform, with the operant reform provisions emphasizing student achievement. Existing research is scant regarding relationships between a district's emphasis on reform priorities, such student achievement, and the dominant work values held by the district's teachers, administrators, and students. However, interactions between district reform policies and the dominant work values of school personnel are possible, and the potential for such interactions must be considered in interpreting the findings of this research. It is possible that principals from districts not undergoing school reform might have held different dominant work values, and rated the teacher-candidates in this study differently, than did the principals participating in the present research.

Conclusion

Values were investigated in this study because of their potential influence on decisions that affect teaching, student learning, and school administration. At a time when schools are driven increasingly by reform movements focused on improving student outcomes, it is important for both principals and teachers to connect work values with school performance. Keedy et al. (1995) contend that school improvement is partly contingent on the ability of educators to examine critically their normative frameworks, which are undergirded by values, beliefs, and commitments.

The present study demonstrated that work values, and their decisional consequences, can be measured empirically in school settings. These findings represent a crucial step towards understanding the impact of work values on teachers, students, administrators, and parents. The results of this study are useful to educators and researchers alike, both for improving administrative practices such as teacher selection, and for critically examining the normative frameworks and value systems held by educators that, in turn, impact the ability to improve teaching and learning.

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Table 1

Descriptive Statistics for Study Participants

Variable	Mean	SD	Range
Age (Years)	50.2	5.8	32-62
Experience as a Principal (Years)	9.3	6.3	1-27
Total Educational Experience (Years)	13.9	5.8	9-37
Teacher Interviews (Number)	38.0	42.0 (a)	2-200
Teachers Hired (Number)	17.5	17.9 (a)	0-100

Note. Statistics are based on 115 participants. N for the study was 460 observations (115 X 4) due to repeated measures on the teacher work value variable.

(a) The high standard deviations for interviews and hires are explained by the differing levels of work experience and by the differing staffing policies (building level versus central office hiring) operant where the participants worked at various stages of their careers. The median for interviews was 20.0. The median for hires was 10.0.

Table 2

Correlation Matrix for Dependent Variable, Principal Characteristics, Teacher Values, and Principal-Teacher Value Interactions

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Dep. Variable	1.00														
2. Age	-.02	1.00													
3. Gender	.08	-.03	1.00												
4. Prin. Experience	-.04	.51 **	-.17 **	1.00											
5. Total Experience	-.03	.64 **	-.09	.52	1.00										
6. No. Interviews	-.02	.20 **	-.14 **	.45 **	.22 **	1.00									
7. No. Hires	.04	.30 **	-.21 **	.47 **	.23 **	.71 **	1.00								
8. Achievement	.14 **	.00	.01	.00	.00	-.01	.00	1.00							
9. Concern	-.03	.00	.02	-.01	.00	-.01	-.01	-.32 **	1.00						
10. Fairness	.01	.00	.00	.00	.00	-.01	.00	-.32 **	-.32 **	1.00					
11. Honesty	-.09	.06	-.04	.00	.05	.01	.05	-.23 **	-.24 **	-.23 **	1.00				
12. Ach. X Ach.	.18 **	-.01	-.01	-.01	-.05	-.03	-.01	.31 **	-.10 *	-.10 *	-.07	1.00			
13. Con. X Con.	.12 **	.01	.07	.07	.03	.06	.04	-.07	.20 **	-.07	-.05	-.02	1.00		
14. Fair X Fair	.13 **	.05	-.04	-.02	.02	-.01	-.05	-.22	-.22 **	.71	-.18 **	-.08	-.05	1.00	
15. Hon. X Hon.	.07	.00	.05	.02	-.01	.01	.05	-.09	-.12 **	-.11 *	.21 **	-.04	-.02	-.09	1.00

Participants = 115

Observations (N) = 480

* $p < .05$

** $p < .01$

Table 3

Multiple Regression of Principal Rating of a Teacher on Principal Work Values, Teacher Work Values, and Principal-Teacher Work Value Interactions

Variables	Beta	T	Change R-Square
Principal Work Values			
Achievement	-.006	-.107	
Concern	-.049	-.980	
Fairness	.029	.589	
Honesty	-.005	-.112	
Teacher Work Values			
Achievement	.1555	3.322 *	.02
Concern	.0624	1.235	
Fairness	-.0991	-1.520	
Honesty	-.0051	-.107	
Work Value Interactions			
Achievement X Achievement	.1565	3.350 *	.02
Concern X Concern	.1487	3.329 *	.02
Fairness X Fairness	.1965	4.277 *	.03
Honesty X Honesty	.1151	2.562 *	.01

R-Square ($F = 10.446$, $p < .0001$) = .10

Adjusted R-Square = .09

* $p < .0001$

Participants = 115

N (Observations) = 460